

Patent claims

1. A method for the computer-aided monitoring of process
parameters of a manufacturing process of a physical
5 object, object data which identify the physical object
being assigned to various hierarchical levels, object
data of various hierarchical levels being grouped to
form hierarchical object data records, limit values
for at least one process parameter being stored and
10 respectively assigned to a hierarchical object data
record, process data of the at least one process
parameter, measured during the manufacture of physical
objects, being stored and the hierarchical object data
records corresponding to the object data being
15 determined for physical objects manufactured;
in which method an unspecific value is stored for the
hierarchical level if no specific value is stored in
the object data record for the hierarchical level;
in which method the process data stored for the
20 corresponding object data records are compared with
the stored limit values for the corresponding object
data records;
in the comparison, the hierarchical levels of the
object data record of the stored process data being
25 iteratively processed according to a predeterminable
hierarchy in such a way that, starting from a highest
hierarchical level, the next-lower hierarchical level
is processed, and this is repeated until the
processing has reached the lowest hierarchical level;
30 and
the unspecific value of a hierarchical level of the
object data record being used if the value of the
hierarchical level is not stored as a specific value.

2. The method as claimed in claim 1, in which the physical object is a wafer.
3. The method as claimed in claim 1 or 2, in which the hierarchical levels correspond to logistical levels of the manufacturing process.
4. The method as claimed in one of claims 1 to 3, in which unspecific limit values are stored for process parameters by using unspecific object data.
5. The method as claimed in one of claims 1 to 4, in which the values of the at least one process parameter are measured.
6. The method as claimed in one of claims 1 to 5, in which the hierarchical levels are sorted according to a predeterminable sorting criterion.
7. A device for the computer-aided monitoring of process parameters of a manufacturing process of a physical object, object data which identify the physical object being assigned to various hierarchical levels, object data of various hierarchical levels being grouped to form hierarchical object data records, limit values for at least one process parameter being stored and respectively assigned to a hierarchical object data record, process data of the at least one process parameter, measured during the manufacture of physical objects, being stored and the hierarchical object data records corresponding to the object data being determined for physical objects manufactured; with a processor, which is set up in such a way that the following method steps can be carried out:

storing an unspecific value for the hierarchical level
if no specific value is stored in the object data
record for the hierarchical level;
comparing process data stored for the corresponding
5 object data records with the stored limit values for
the corresponding object data records;
iteratively processing the hierarchical levels of the
object data record of the stored process data
according to a predeterminable hierarchy in the
10 comparison in such a way that, starting from a highest
hierarchical level, the next-lower hierarchical level
is processed, and this is repeated until the
processing has reached the lowest hierarchical level
and the unspecific value of a hierarchical level of
15 the object data record being used in the processing if
the value of the hierarchical level is not stored as a
specific value.

8. A computer-readable storage medium, in which a program
20 for the monitoring of a manufacturing process of a
physical object is stored, object data which identify
the physical object being assigned to various
hierarchical levels, object data of various
hierarchical levels being grouped to form hierarchical
25 object data records, limit values for at least one
process parameter being stored and respectively
assigned to a hierarchical object data record, process
data of the at least one process parameter, measured
during the manufacture of physical objects, being
30 stored and the hierarchical object data records
corresponding to the object data being determined for
physical objects manufactured,
which program has the following method steps when it
is run by a processor:

- storing an unspecific value for the hierarchical level
if no specific value is stored in the object data
record for the hierarchical level;
comparing process data stored for the corresponding
5 object data records with the stored limit values for
the corresponding object data records;
iteratively processing the hierarchical levels of the
object data record of the stored process data
according to a predeterminable hierarchy in the
10 comparison in such a way that, starting from a highest
hierarchical level, the next-lower hierarchical level
is processed, and this is repeated until the
processing has reached the lowest hierarchical level,
and the unspecific value of a hierarchical level of
15 the object data record being used in the processing if
the value of the hierarchical level is not stored as a
specific value.
9. A computer program element for the monitoring of a
20 manufacturing process of a physical object, object
data which identify the physical object being assigned
to various hierarchical levels, object data of various
hierarchical levels being grouped to form hierarchical
object data records, limit values for at least one
25 process parameter being stored and respectively
assigned to a hierarchical object data record, process
data of the at least one process parameter, measured
during the manufacture of physical objects, being
stored and the hierarchical object data records
30 corresponding to the object data being determined for
physical objects manufactured,
which element has the following method steps when it
is run by a processor:

storing an unspecific value for the hierarchical level
if no specific value is stored in the object data
record for the hierarchical level;
5 comparing process data stored for the corresponding
object data records with the stored limit values for
the corresponding object data records;
iteratively processing the hierarchical levels of the
object data record of the stored process data
according to a predeterminable hierarchy in the
10 comparison in such a way that, starting from a highest
hierarchical level, the next-lower hierarchical level
is processed, and this is repeated until the
processing has reached the lowest hierarchical level,
and the unspecific value of a hierarchical level of
15 the object data record being used in the processing if
the value of the hierarchical level is not stored as a
specific value.